Bellcomm

955 L'Enfant Plaza North, S.W.
Washington, D. C. 20024

B71 07032

date: July 21, 1971

to: Distribution

from: G. S. Taylor

subject: Estimating the Distance to the Rim of St. George Crater from Station 2 for Apollo 15 -- Case 310

MEMORANDUM FOR FILE

The bends in the Hadley rille can be used by the crew and the ground support to estimate the distance to the rim of St. George crater. Figure 1 shows that northwest of station 2 the rille has a bend near Trophy Point and a bend near Distant crater. It has been determined from viewability studies that these two bends are visible from the region of station 2 (Figure 2). By measuring the relative distance between these two bends with the gnomon or TV, the approximate distance to the rim may be determined.

The two bends become superimposed when viewed from about 320 meters from the rim of St. George crater. A one-inch horizontal separation of the bends as measured at a 30-inch arm length represents about 100 meters additional distance from the rim of St. George. Correspondingly, if angles are measured from the TV, each degree of separation corresponds to 50 meters. This method is insensitive to movement parallel to the rim of St. George and to the exact arm length of the astronaut.

Figure 2 shows the gnomon gray scale superimposed to illustrate the expected view. If the topmost black and white bands on the gnomon are disregarded, the remaining section of ten one-inch bands provides a convenient measurement tool. The relative separation shown in Figure 2 is 1.5 bands so the distance from the rim of St. George crater would be about 470 meters.

G. S. Taylor

2013-GST-jab

G. S. Taylor

Attachments

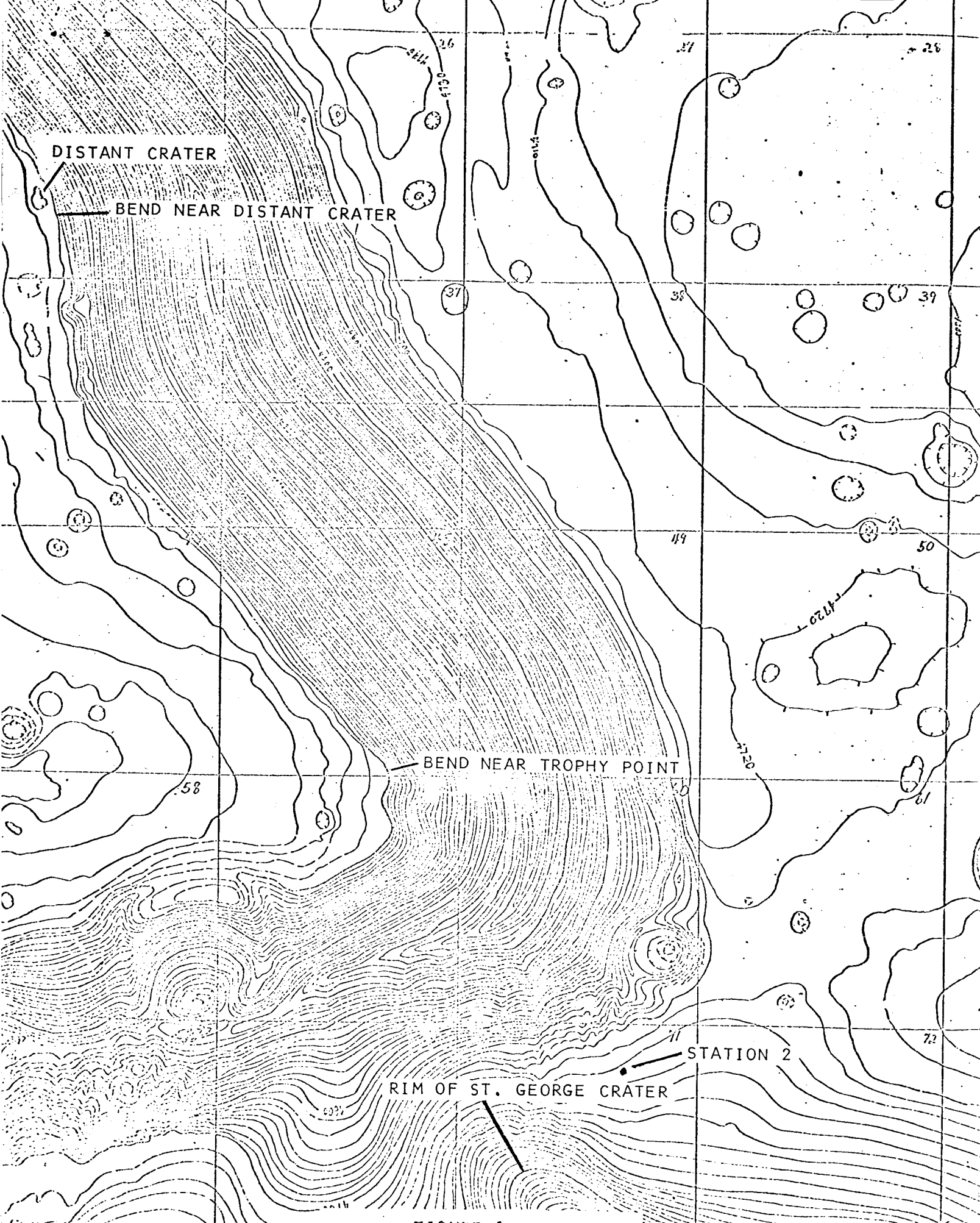

FIGURE 1

SECTION OF HADLEY-APENNINE

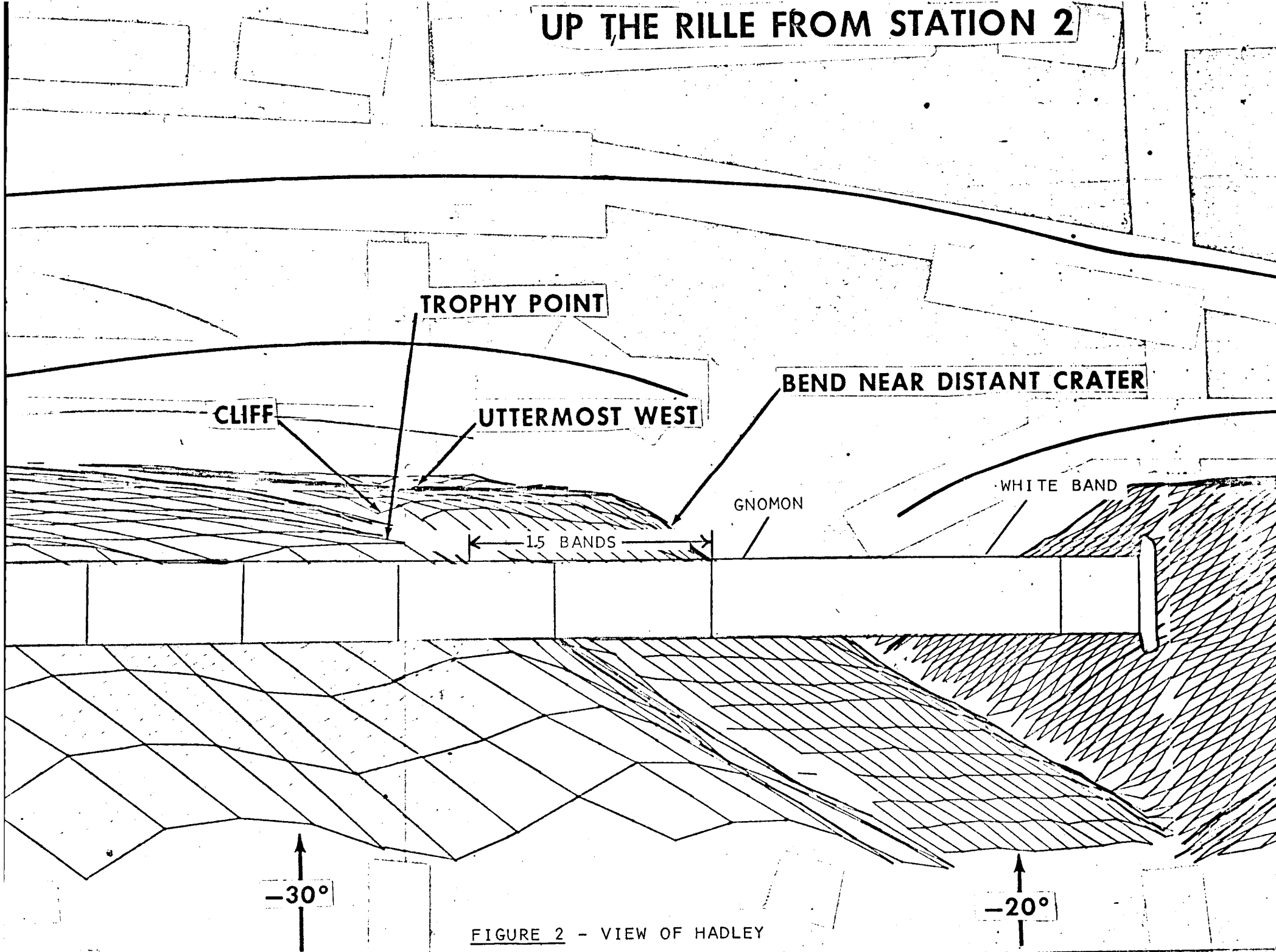

FIGURE 2 - VIEW OF HADLEY RILLE FROM AREA OF STATION 2

Subject: Estimating the Distance to the Rim of St. George Crater from Station 2 for Apollo 15 -- Case 310

From: G. S. Taylor

Distribution List

NASA Headquarters

J. K. Holcomb/MAO
C. M. Lee/MA
A. S. Lyman/MR
R. A. Petrone/MA
W. E. Stoney/MAE

Manned Spacecraft Center

J. P. Allen/CB
J. B. Irwin/CB
G. D. Griffith/FC9
J. A. Lovell/CB
M. C. McEwen/TM4
D. R. Scott/CB
J. R. Sevier/PD4

Marshall Space Flight Center

O. H. Vaughan/S&E-AERO-YE

Bellcomm, Inc.

R. A. Bass
A. P. Boysen, Jr.
J. O. Cappellari, Jr.
J. P. Downs
D. R. Hagner
W. G. Heffron
N. W. Hinners
D. P. Ling
K. E. Martersteck
J. Z. Menard
P. E. Reynolds
J. W. Timko
R. L. Wagner
M. P. Wilson
All Members Department 2013
Central Files
Department 1024 File
Library